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WQD7001 PRINCIPLES OF DATA SCIENCE

TUTORIAL 2

1. MAI Corp which manufactures bicycles and related equipment and clothing, is interested in gaining a better understanding of its customers. While the company has a CRM system that contains information about customer contacts with the firm (phone calls, queries, and orders), there is interest in obtaining more data about what customers think and are saying about the company and its products. What might be some useful sources of additional data? What issues might be associated with collecting, sorting, and analyzing this data?

a. Useful sources of additional data:

There are a few useful sources to obtain data on customer's opinion on the company and its products. For example,

- i. Feedback and comments on the company's social media.
- ii. Analysis of products from competitors to understand market trends and customer preferences.

b. Issues with collection, sorting and analyzing this data:

- i. These collection of this data has to be carry out manually using data mining process.
- ii. The data collected are initially unstructured and is very dirty which requires extensive resources and time to sort then clean the data, only then the data is ready to be analyzed.
- iii. The outcome of the analysis might have inaccuracy. The accuracy of the analysis depends partly on how the data was initially collected, whether data volume is sufficiently large, whether the data collected contained bias.

2. Read the following article :

MTF Biologics gains better insights into business processes and practices with BOARD

About MTF Biologics

Headquartered in Edison, New Jersey, MTF Biologics has spent more than 30 years honoring donated gifts by developing innovative, effective allograft solutions to help people heal. From orthopedics to wound care to plastic and reconstructive surgery, we have become a force in scientific progress and patient advocacy.

The Need

MTF Biologics, formerly known as The Musculoskeletal Transplant Foundation (MTF), in 2008 saw the need for more robust reporting and better analytical tools for both the technical and business sides of their non-profit organization. As part of this initiative, MTF Biologics began researching business

intelligence tools that met the organization's requirements and could scale for future analytics or planning needs. The team tasked with this project evaluated both BOARD and IBM's Cognos solution, and decided to move forward with BOARD for a variety of reasons.

The Solution

MTF Biologics chose BOARD for four of its core offerings and capabilities. As a non-profit organization, MTF Biologics was interested in an affordable, yet robust solution to meet its reporting and analytics challenges and with the scalability to meet future planning needs. With its all-in-one business intelligence and planning capabilities, BOARD's total cost of ownership is significantly lower than that of the competition. Additionally, MTF Biologics was looking for a solution that offered both a user-friendly interface and ease-of-use for all users.

"We chose Board because it met our needs of having a robust business intelligence tool that had clear, straightforward approach to presenting critical information," said Leezza Mathews, Manager IT MIS, MTF Biologics.

With BOARD's self-service environment, users can easily search for information, interact intuitively with their data, and perform in-depth analyses with the utmost simplicity. Furthermore, the programming-free approach empowers business users to rapidly develop and maintain sophisticated analytical and planning applications with minimal IT support. Lastly, the team at MTF Biologics was impressed by the graphical and visualization capabilities of BOARD.

The Results

"With Board, we are able leverage its analytic and reporting functionality to effectively monitor performance and make key business decisions," said Leezza Mathews.

Today, MTF Biologics uses BOARD for much more than traditional business intelligence. MTF Biologics has an advanced analytics and planning strategy that includes the use of BOARD for budgeting processes, sales reporting, operations reporting and planning, interactive reporting, trend spotting, and customized reporting and dashboarding. MTF Biologics will continue to leverage BOARD's many reporting, analytics and planning capabilities in its formal and evolving organization-wide BI strategy. With BOARD, MTF Biologics has gained better insight into its business processes, improved reporting on financials and streamlined budget process – and there's much more to come.

1. How the BI tool help to increase MTF Biologics productivity?
 - The BI tool helped MTF Biologics in increasing its productivity as it allows them to gain better insights into business processes, improved reporting on financials and streamlined budget process.

2. List the functionalities of BI tools. In your opinion, which is the most important function? Why?
 - Interactive dashboard and reporting

- Real-time update of data and information for updated insights
- Quick and accessible data to drive data-driven decisions
- Comprehensive data visualisation to uncover insights
- Performance tracking
- Predictive and prescriptive analytics to identify trends

In my opinion the most important function would be the dashboarding since it allows varying data visualisations to be present in the same view. This enables user to uncover wide range of insights conveniently and quickly.